

SAFE ELECTRIC Newsletter

AGM
ANNUAL GENERAL MEETING

2018

The 26th Annual General Meeting of the Register of Electrical Contractors of Ireland, Company Limited by Guarantee, will be held at:

The Red Cow Moran Hotel, Naas Road, Dublin 22 Commencing at 11.30am on Saturday 29th September 2018.



Please be advised our offices will be closed from 8:30am on Thursday 27th September, reopening Friday 28th September at 9:30am.

This is for a staff training and development day. Safe Electric apologise for any inconvenience caused.

A fond farewell as John Morris retires



Dublin Inspector John Morris seen here with Chief Inspector John Clare, General Manager Pierce Martin and AECI President Colm Walsh attending the AECI tradeshow in the City West Hotel earlier this month. John Morris, one of the original RECI/Safe Electric Inspectors is retiring at the end of September 2018. John started his career as an apprentice electrician under the watchful eye of Brendan Carr Electrical at the ripe old age of 15. After completing his apprenticeship with Brendan, John then went on to work with a number of small and large electrical contractors within the Irish electrical industry during his career before becoming a RECI inspector for the Dublin and surrounding counties on the 2nd September 1992. The vast experience he gained from his many roles while working in the industry played an enormous part in helping to structure and develop the implementation of the inspection scheme under the new voluntary regulatory scheme. This was a challenging time for the electrical industry and his contribution in helping to achieve a higher standard in the industry with the aim of protecting the general public has been widely recognised. John remembers the time before mobile phones were largely available carrying rolls of coins to contact members while carryout his inspection duties.

John along with Frank Byrne were part of the original inspectorate who helped to improved standards by educating and refreshing contractors through the Verification & Certification training course offered to members in the early days of the voluntary scheme. John has always been available to offer advice and a helping hand with any queries that arose from members of the scheme over the years.

RECI was successful in 2009 and 2016 in winning the new safety supervisory body licence and continued its previous adopted role as a voluntary regulator for the industry on firmer footing. John continued in his role as the Dublin inspector and has earned the respect of registered contractors through his professionalism, dedication and strong commitment to continually aim for higher safety standards for the industry. John will be sorely missed for his continual good humour and helpful advice by all his colleagues and the registered contractors who he has helped over the years.

We wish John all the very best for a long, healthy and happy retirement.

Autumn 2018 Roadshows

Due to the success of the 2018 spring Roadshows we will be running 2 shows this autumn. The content of the shows will be the same as the spring shows with the main focus being 'Periodic Inspection Reporting'

Venues, details and dates of all events are shown on page 7 of this newsletter.

We plan to run a large number of roadshows next year. 2019 will see some major changes in our industry and we aim to provide information to all our members.

Please try to attend one of these FREE very informative events.

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The 5th Edition of the Wiring Rules is currently being worked on. The TC2 committee under the leadership of the NSAI are currently working hard to have a draft version available for November 2018.

The 5th edition of the wiring rules will be named the S.I.10101 and will become a legal document.

There is also a proposal to have the new wiring rules in an electronic format.

When complete, the draft version will be available for public consultation. This gives YOU an opportunity to have input into the forthcoming rules prior to it being finalised. Below gives you the procedure for having your say in commenting on this draft version.



Log on to: <http://www.nsainep.ie/> Follow registration procedure.



Search for I.S.10101



Read and review the current standard and think about how it would affect you and your business.



Comment on the draft standard and help shape its future.



Proposed procedure dates

(This is subject to change)

2018

| |
|-------|
| JAN |
| FEB |
| MAR |
| APRIL |
| MAY |
| JUNE |
| JULY |
| AUG |
| SEPT |
| OCT |
| NOV |
| DEC |

Draft available and start of Public Consultation

2019

| |
|-------|
| JAN |
| FEB |
| MAR |
| APRIL |
| MAY |
| JUNE |
| JULY |
| AUG |
| SEPT |
| OCT |
| NOV |
| DEC |

End of Public Consultation

Final Publication I.S.10101

Implementation

Frequently Asked Questions

Q1 - I am carrying out an agricultural installation where the supply cable to a shed will have to run overhead. Is this a problem?

A. No, as long as rule 705.522.6.04 is complied with: Overhead cables shall be mounted at least 6m above ground level. Overhead lines shall be insulated.

Q2 - I plan to locate a distribution board in a utility where a gas boiler is installed. Is this ok?

Yes, as long as rule 530.5.6 is complied with: A distribution board shall not be located within 400mm in any direction from a gas meter or a gas appliance.

Q3 - I am installing a small enclosure with only 3 circuits. Do I need a main isolating switch?

Yes, Rule 462.4 requires: Every distribution board and switchgear assembly shall be provided with an isolating switch for the purpose of disconnecting that equipment from the supply.

Distribution Board Definition (Part 2): An assembly of protective devices, including two or more fuses or circuit breakers, arranged for the distribution of electrical energy to final circuits or to other distribution boards.

Q4 - I am installing isolators for inaccessible sockets in a kitchen. My inspector has told me that the engraved switches that I have used are in breach of the rules. I had to replace them with isolators having on and off indication. Why?

Rule 537.2.2.2 States: The open and closed positions of an isolating switch shall be clearly and reliably indicated by OFF and ON markings respectively. Such indications shall occur only when the device is fully open or closed.

Q5 - Can I run a 12v bell cable to a bell transformer in a distribution board?

A. Yes, providing the following rules are complied with:

521.6.3 Several circuits in the same conduit, ducting or trunking system are admissible provided all conductors are insulated for the highest nominal voltage present.

515.2 Where electrical equipment carrying currents of different types or at different voltages is grouped in a common assembly, all the equipment belonging to anyone type of current or voltage shall be effectively segregated wherever necessary to avoid mutual detrimental influences.

RGII News



The Register of Gas Installers (RGI), which is one of the main ways of ensuring gas safety in Ireland.

At present, the RGI scheme requires any person carrying out domestic gas works to be registered. This is being expanded to include non-domestic gas. All people working on commercial gas works to register by January 2019 and complete training.

The non-domestic RGI scheme follows extensive consultation and will promote higher safety standards. It will include pipework, space heating, hot water, catering, laundry and combined heat and power installations. From January 2019, customers should only use RGIs to carry out any domestic or non-domestic gas works. By using an RGI they can have confidence they are dealing with a trained installer who has the required expertise. Any installer that carries out either domestic or non-domestic gas works after January 2019 who are not registered will be subject to prosecution. The CRU regularly carries out investigations and has successfully prosecuted over 20 cases in the last three years.

Frequently asked questions

Who should register?

Anyone carrying out or intending to carry out Non-Domestic Gas Works including pipework, space heating, hot water, catering, laundry, power generation and CHP installations.

Why should installers register?

Because, it will be a legal requirement from January 2019.

Do I need to register if I am already an RGI for domestic installation?

Yes, this is a standalone scheme, separate from the Register of Domestic Gas Installers.

How do I register?

Visit rgii.ie and apply to join the provisional register for free.

What is the provisional register?

The provisional register is a voluntary first step ahead of the mandatory register coming in in January 2019. It will determine individual's additional training. The provisional register does not guarantee that you will be eligible for full registration in 2019 but does identify you as a person who wishes to become a non-domestic RGI and access to training.

I am already on the provisional register what do I do now?

Please ensure you have submitted proof of qualifications and experience to RGII and then book a place on a Non-Domestic Gas Safety course.

Can apprentices or trainees be registered?

Trainees/apprentices must also register and show evidence of education/training. They must also be in a position to nominate a supervisor.

For more information and to get on the provisional register please visit rgii.ie.

PLEASE NOTE - The Roadshow details shown below are for intended for gas installers **only!**

RGII Gas Roadshow Dates (start time 6:00pm)

| | | |
|--------------------------------------|--------------|--|
| Tuesday 11 th September | Donegal | Mill Park Hotel, The Mullins, Mullans, Donegal |
| Wednesday 12 th September | Dundalk | Carrickdale Hotel & Spa, Carrickcarnon, Ravensdale, Dundalk |
| Thursday 13 th September | Dublin North | Carlton Dublin Airport Hotel, Old Airport Road, Cloghran, Dublin |
| Tuesday 18 th September | Galway | Shearwater Hotel, Marina Point, Ballinasloe, Co. Galway |
| Wednesday 19 th September | Dublin South | Maldron Hotel, Tallaght Whitestown Way, Tallaght, Dublin 24 |
| Thursday 20 th September | Cork | Radisson Blu Hotel.,Ditchley House - Little Island, Cork |
| Tuesday 25 th September | Kilkenny | Hotel Kilkenny, College Road, Kilkenny |
| Tuesday 2 nd October | Limerick | Radisson Blu Hotel & Spa, Ennis Road, Limerick |

Solar PV Grant

SEAI now offer homeowners a grant of up to €3,800 to support the installation of Solar PV panels and battery energy storage systems. Support is available to all owners of dwellings **built and occupied before 2011**. The grant became available for all new Solar PV installations from 31st July 2018



The Installer must hold a valid and current registration, under the Solar Photovoltaic category, on SEAI's Renewable Installer Register AND a registration on SEAI's Solar PV Installer Register at the time the installation is carried out. The Installer must satisfy themselves, and certify, that the solar PV system installation has been designed, installed, tested and commissioned in accordance with this code of practice, and other relevant codes and standards. The Installer must, at his/her cost, provide all information required by SEAI or SEAI's agents for the purposes of audit and inspection.

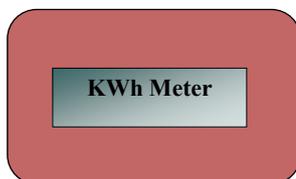
Full details and installation code of practice can be found on the following link: <https://www.seai.ie/grants/home-grants/solar-pv/>

Below and on the page opposite are some of the requirements as shown in the SEAI code of practice. The information we have produced is intended only as a guide of a typical domestic installation based mainly on SEAI requirements.



String Inverters should be installed on a flat vertical, fire-resistant (concrete/masonry) surface, according to manufacturer's recommendations, with adequate surrounding space to allow for ventilation.

- Where string inverters are not installed on a fire resistance surface (such as in attic spaces), they must be installed on a fire-resistant substrate which extends to a minimum of 150mm beyond the edge of the inverter.



A separate metering device must be supplied, on the AC side of the inverter, which records the energy generated (in kWh) by the solar PV system. This metering device must be capable of accurately measuring, recording and displaying the energy generated and must not be reset during prolonged loss of power.



DC connectors (typically MC4) must be rated to IP21, class II, shrouded and must be labelled positive and negative.

DC Connectors must comply with EN 62852 and EN 50521

Tip. Poor DC connections are a common cause of fires. Plugs and socket connectors mated together in a PV system should be of the same type from the same manufacturer to minimise the risk of a poor connection. Only use a propriety crimping tool.



The DC system must comply with ET101:2008

All DC cables must be double insulated

DC cables must be SWA where mechanical protection is required

For long runs of DC cables an earthed metal trunking system must be used

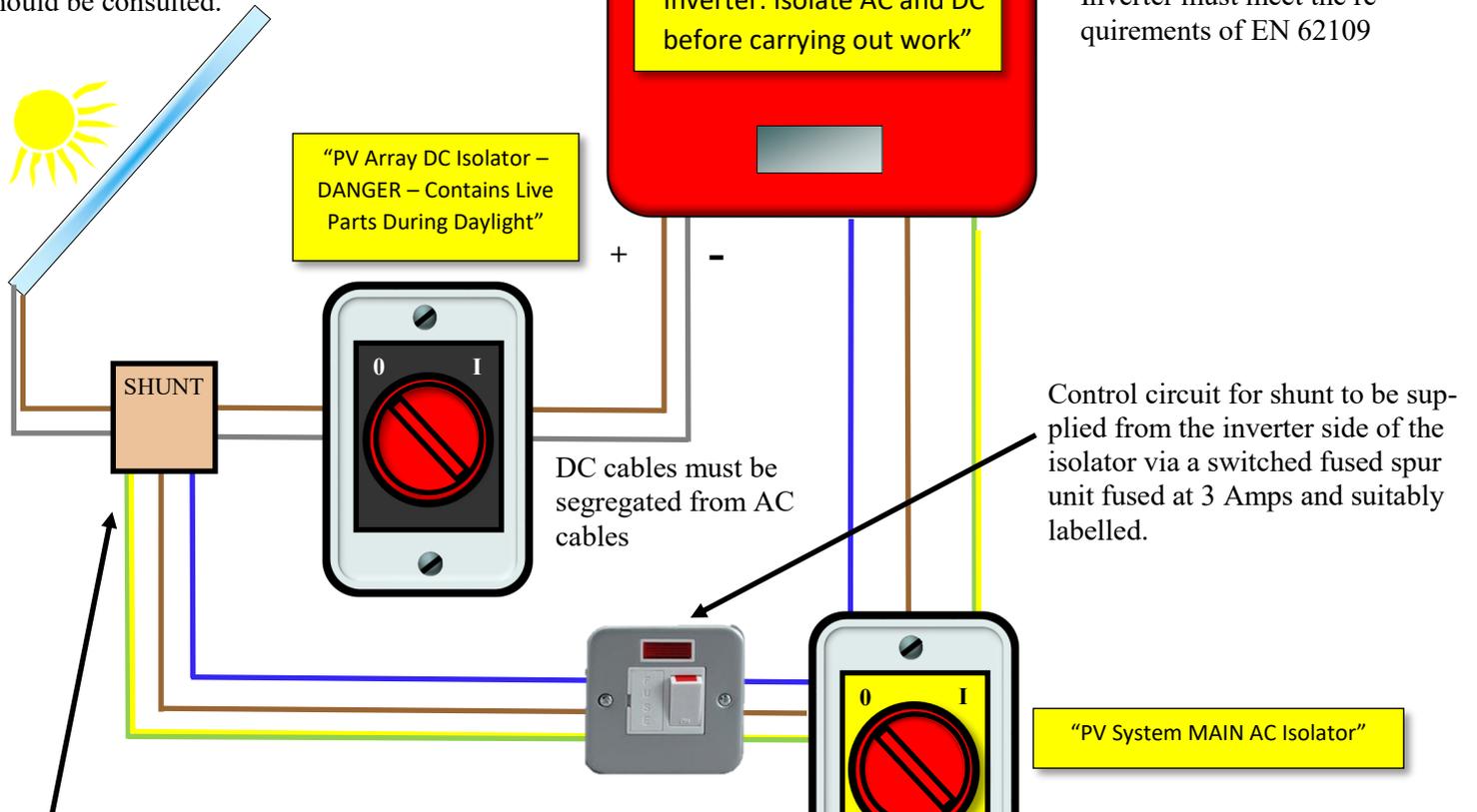
Tip. Consideration must be given to the UV resistance of all cables and cable fixings installed outside or in a location that may be subject to UV exposure. Cables should also be installed to minimise the risk from damage wind, rain, snow etc.



Typical Domestic Photovoltaic Arrangement

Based on SEAI 2018 code of practice requirements for domestic installations

Roof panels must be mounted and fixed according to 4.3 of the code of practice and to manufacturer's instructions. Where there is any doubt to the suitability of the roof structure to withstand the imposed loads, a qualified structural engineer should be consulted.



Inverter must meet the requirements of EN 62109

Provide an automatic shunt isolation of the circuit (whether AC or DC, and two pole) from the solar PV modules into the building, as close to the solar PV modules as possible, and a maximum of **1.5m** from the point of cable entry to the building. This must be a proprietary unit, using contactors is NOT acceptable. The unit shall be suitably labelled advising that 2 supplies may be present.

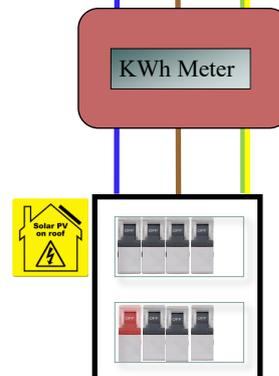
Typically in attic space

The main incoming point of the dwelling (typically the meter box) must contain a warning label indicating the presence of a separate source of electrical supply to the building.

Typically on ground floor



"In Emergency Solar PV DC Circuit Automatically Disconnected with Disconnection of AC Supply to Building"



KWh meter required under 4.5.2 of the code of practice.

Suitably selected RCBO in accordance with ET101:2008.

"In Emergency Solar PV DC Circuit Automatically Disconnected with Disconnection of AC Supply to Building"

Quick Reference Chart

1.5mm² Rp + Re

| Cable Length (Mts) | Resistance Reading Ω | Cable Length (Mts) | Resistance Reading Ω |
|--------------------|----------------------|--------------------|----------------------|
| 1 | 0.02 | 51 | 1.23 |
| 2 | 0.05 | 52 | 1.26 |
| 3 | 0.07 | 53 | 1.28 |
| 4 | 0.10 | 54 | 1.31 |
| 5 | 0.12 | 55 | 1.33 |
| 6 | 0.15 | 56 | 1.36 |
| 7 | 0.17 | 57 | 1.38 |
| 8 | 0.19 | 58 | 1.40 |
| 9 | 0.22 | 59 | 1.43 |
| 10 | 0.24 | 60 | 1.45 |
| 11 | 0.27 | 61 | 1.48 |
| 12 | 0.29 | 62 | 1.50 |
| 13 | 0.31 | 63 | 1.52 |
| 14 | 0.34 | 64 | 1.55 |
| 15 | 0.36 | 65 | 1.57 |
| 16 | 0.39 | 66 | 1.60 |
| 17 | 0.41 | 67 | 1.62 |
| 18 | 0.44 | 68 | 1.65 |
| 19 | 0.46 | 69 | 1.67 |
| 20 | 0.48 | 70 | 1.69 |
| 21 | 0.51 | 71 | 1.72 |
| 22 | 0.53 | 72 | 1.74 |
| 23 | 0.56 | 73 | 1.77 |
| 24 | 0.58 | 74 | 1.79 |
| 25 | 0.61 | 75 | 1.82 |
| 26 | 0.63 | 76 | 1.84 |
| 27 | 0.65 | 77 | 1.86 |
| 28 | 0.68 | 78 | 1.89 |
| 29 | 0.70 | 79 | 1.91 |
| 30 | 0.73 | 80 | 1.94 |
| 31 | 0.75 | 81 | 1.96 |
| 32 | 0.77 | 82 | 1.98 |
| 33 | 0.80 | 83 | 2.01 |
| 34 | 0.82 | 84 | 2.03 |
| 35 | 0.85 | 85 | 2.06 |
| 36 | 0.87 | 86 | 2.08 |
| 37 | 0.90 | 87 | 2.11 |
| 38 | 0.92 | 88 | 2.13 |
| 39 | 0.94 | 89 | 2.15 |
| 40 | 0.97 | 90 | 2.18 |
| 41 | 0.99 | 91 | 2.20 |
| 42 | 1.02 | 92 | 2.23 |
| 43 | 1.04 | 93 | 2.25 |
| 44 | 1.06 | 94 | 2.27 |
| 45 | 1.09 | 95 | 2.30 |
| 46 | 1.11 | 96 | 2.32 |
| 47 | 1.14 | 97 | 2.35 |
| 48 | 1.16 | 98 | 2.37 |
| 49 | 1.19 | 99 | 2.40 |
| 50 | 1.21 | 100 | 2.42 |



2.5mm² Rp + Re

| Cable Length (Mts) | Resistance Reading Ω | Cable Length (Mts) | Resistance Reading Ω |
|--------------------|----------------------|--------------------|----------------------|
| 1 | 0.01 | 51 | 0.75 |
| 2 | 0.03 | 52 | 0.77 |
| 3 | 0.04 | 53 | 0.78 |
| 4 | 0.06 | 54 | 0.80 |
| 5 | 0.07 | 55 | 0.81 |
| 6 | 0.09 | 56 | 0.83 |
| 7 | 0.10 | 57 | 0.84 |
| 8 | 0.12 | 58 | 0.86 |
| 9 | 0.13 | 59 | 0.87 |
| 10 | 0.15 | 60 | 0.89 |
| 11 | 0.16 | 61 | 0.90 |
| 12 | 0.18 | 62 | 0.92 |
| 13 | 0.19 | 63 | 0.93 |
| 14 | 0.21 | 64 | 0.95 |
| 15 | 0.22 | 65 | 0.96 |
| 16 | 0.24 | 66 | 0.98 |
| 17 | 0.25 | 67 | 0.99 |
| 18 | 0.27 | 68 | 1.01 |
| 19 | 0.28 | 69 | 1.02 |
| 20 | 0.30 | 70 | 1.04 |
| 21 | 0.31 | 71 | 1.05 |
| 22 | 0.33 | 72 | 1.07 |
| 23 | 0.34 | 73 | 1.08 |
| 24 | 0.36 | 74 | 1.10 |
| 25 | 0.37 | 75 | 1.11 |
| 26 | 0.38 | 76 | 1.12 |
| 27 | 0.40 | 77 | 1.14 |
| 28 | 0.41 | 78 | 1.15 |
| 29 | 0.43 | 79 | 1.17 |
| 30 | 0.44 | 80 | 1.18 |
| 31 | 0.46 | 81 | 1.20 |
| 32 | 0.47 | 82 | 1.21 |
| 33 | 0.49 | 83 | 1.23 |
| 34 | 0.50 | 84 | 1.24 |
| 35 | 0.52 | 85 | 1.26 |
| 36 | 0.53 | 86 | 1.27 |
| 37 | 0.55 | 87 | 1.29 |
| 38 | 0.56 | 88 | 1.30 |
| 39 | 0.58 | 89 | 1.32 |
| 40 | 0.59 | 90 | 1.33 |
| 41 | 0.61 | 91 | 1.35 |
| 42 | 0.62 | 92 | 1.36 |
| 43 | 0.64 | 93 | 1.38 |
| 44 | 0.65 | 94 | 1.39 |
| 45 | 0.67 | 95 | 1.41 |
| 46 | 0.68 | 96 | 1.42 |
| 47 | 0.70 | 97 | 1.44 |
| 48 | 0.71 | 98 | 1.45 |
| 49 | 0.73 | 99 | 1.47 |
| 50 | 0.74 | 100 | 1.48 |

Please note: the actual resistance for Rp + Re 1.5mm² is 0.0242Ω per metre and 0.0148Ω per metre for 2.5mm². The chart shows results too 2 decimal places for clarity.

The above tables can be used to help verify correct test meter readings for the resistance of Rp + Re for 1.5mm² and 2.5mm² equal size cable. Please note that readings will be lower in installations where parallel paths exist (steel trunking, steel conduit, s.w.a. etc.). These tables are intended as a guide only. Readings MUST be obtained using proprietary test equipment.

| Venue | Date | |
|---|-----------|---------------------|
| Oriel House Hotel, Ballincollig, Cork | Wednesday | 26th September 2018 |
| Tullamore Court Hotel, O'Moore Street, Tullamore, Co.Offaly | Thursday | 27th September 2018 |

PLEASE NOTE: The 2 Roadshows will be the same content as the Spring 2018 shows. The main focus being on how to complete a Periodic Inspection Report. We are running these 2 shows due to popular demand. If you are undertaking this type of work, we would urge you to attend.

THE ROADSHOWS WILL START AT 5:00pm

These Roadshows run by 'SAFE ELECTRIC' are aimed at helping registered electrical contractors get to grips with a range of all new technical topics.

We will have a number of 'Test Rigs' on display. These will be manned by Safe Electric inspectors who will demonstrate 'Hands On' Pre and Post Connection Tests.



Topics covered will include:

- Completing a 'Periodic Inspection Report'*
- Electric car charging requirements*
- ET101 National Wiring Rule clarification*
- Question and Answer sessions*
- Completing a Certificate*

Also covered

- Understanding Pre-connection testing*
- Understanding Post-connection testing*



Complimentary tea, coffee, snacks!



NO CHARGE - NO NEED TO BOOK JUST TURN UP

These events will be a mixture of industry talks and demonstrations. There will also be Industry representatives, who will be available to answer any related questions.

Safe Electric will present you with over 3 hours of technical content.

Inspectors will also be on hand to answer any questions you may have.

Each event will also be hosting stands by leading manufacturers and suppliers who you can have a chat with.



IMPROVE YOUR TESTING SKILLS

Please try to attend one of these very informative evenings.

Amendment 3 to ET101 wiring rules is now available. It covers 'Supplies for Electric Vehicle's' and is an addition to part 7 Special Locations (covered under 722).



Considerations of electrical equipment installed in attic

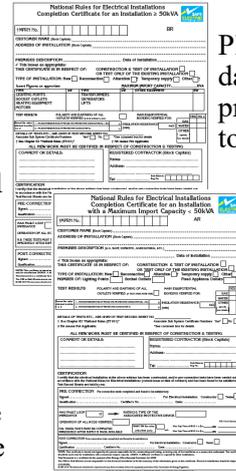


Electrical equipment installed in attic spaces of domestic premises is becoming more commonplace. Equipment include: heat recovery system, inverters for solar photovoltaic systems, water pumps and similar types of equipment that typically require infrequent handling or visual monitoring. Risks need to be considered when mounting equipment in such spaces.

Dangers of fire becomes more hazardous due to exposed timbers, there may be roof covering with a degree of flammability, such as thatch or felt, the space may be used to store items which may be combustible, or be stored in combustible containers, such as cardboard boxes.

It should be noted that a loft can be subjected to a wide range of temperatures, for example, it could drop to well below freezing point in the winter months and may rise to 35 °C in the summer months. Therefore, to ensure operation of the equipment does not present a fire risk, as for any installed equipment, the manufacturer's instructions should be taken into account (Rules 133.3 & 134.1.1). Equipment must be accessible in order to carry out maintenance and repair works. (Rule 132.12). A safe permanent means of access, permanent lighting and fire detection may also be required.

PROCESSING CERTS



Please allow 2-3 working days for the processing of pre-connection certificates to the ESB. With the volume coming in to Safe Electric everyday your certificate might not be guaranteed to be processed on the day it comes in. Thank you for your patience and understanding.

Accredited Verification & Certification Course Providers

Listed below are course providers where you can obtain a QC number

| Centre Name | Address | Contact |
|---|--|--|
| Designer Group Training Academy | 52 Nore Road Dublin Industrial Estate Dublin 11 D11 V667 | 01 960940 / 0877477487 seanpurcell@designergp.com |
| Future Skills Ireland Ltd | 47B Keeper Road Drimnagh Dublin 12 | 01 5324058 info@futureskillsireland.ie |
| iSkill Training | 12A & B Bluebell Business Park Old Naas Road Dublin 12 | 01 4242440 info@iskill.ie |
| METAC Ltd | Mountrath Enterprise Park Portlaoise Road Mountrath Co. Laois | 057 8756540 info@metac.ie |
| Waterford Wexford Training Services, WWETB | Waterford Industrial Estate Cork Road Waterford X91 PX02 | 051 301500 (Waterford) 053 9143602 (Wexford) infotraining@wwetb.ie |
| ECSSA | Coolmore House Park Road Killarney Co. Kerry | 064 6637266 info@ecssa.ie |
| Cavan & Monaghan Education & Training Board | CMETB FET Campus Dublin Road Cavan | 049 4353906 / 4353923 EdelCoyle@cmetb.ie |